

# SEQUENCE LISTING

<110> MERISTEM THERAPEUTICS

<120> SYNTHETIC AND CHIMERIC PROMOTERS, EXPRESSION CASSETTES,  
PLASMIDS, VECTORS, TRANSGENIC PLANTS ET SEEDS INCLUDING  
THEM AND PROCESSES FOR PRODUCING THE SAME

<130> PrHMMWG1

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<160> 37

<170> PatentIn Ver. 2.1

<210> 1

<211> 417

<212> DNA

<213> Triticum aestivum

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<221> misc\_feature

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<223> GATA box

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<222> (87)..(90)

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<222> (127)..(133)

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<222> (161)..(168)

<223> G-like box

<220>

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<222> (193)..(230)

<223> Enhancer box

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<221> TATA\_signal

<222> (349)..(355)

<223> TATA box

<220>

<221> misc\_feature

<222> (379)

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cccaagaagg ataatcactt ttcttagata aaaaagaaca gaccaatata caaacatcca 120  
cacttctgca aacaatacat cagaactagg attacgccga ttacgtggct ttagcagact 180  
gtccaaaaat ctgttttgca aagctccaat tgctccttgc ttatccagct tcttttgtgt 240  
tggcaaactg cgcttttcca accgattttg ttcttctcgc gctttcttct taggctaaac 300  
aaacctcacc gtgcacgcag ccatggtcct gaaccttcac ctcgtcctta taaaagccta 360  
gccaaccttc acaatcttat catcaccac aacaccgagc accacaaact agagatc 417

<210> 2

<211> 181

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:MPPr1126

promoter

<220>

<221> TATA\_signal

<222> (113)..(119)

<223> TATA box

<220>

<221> misc\_feature

<222> (143)

<223> Transcription Initiation site

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gtgttggtgcaa actgcgcgttt tccaaccgat tttgttcttc tcgcgcgtttc ttcttaggct 60  
aaacaaacct caccgtgcac gcagccatgg tcctgaacct tcacctcgtc cctataaaag 120  
cctagccaac cttcacaatc ttatcatcac ccacaacacc gagcaccaca aactagagat 180  
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<213> Artificial Sequence

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promoter

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<221> enhancer

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<223> Enhancer box

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<221> TATA\_signal

<222> (176)..(182)

<223> TATA box

<220>

<221> misc\_feature

<222> (206)

<223> Transcription Initiation site

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gctaaacaaa cctcaccgtg cacgcagcca tggtcctgaa ccttcacctc gtccctataa 180  
aagcctagcc aaccttcaca atcttatcat caccacaac accgagcacc acaaactaga 240  
gatc 244

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<211> 277

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promoter

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<222> (21)..(28)

<223> G-like box

<220>

<221> enhancer

<222> (53)..(90)

<223> Enhancer box

<220>

<221> TATA\_signal

<222> (209)..(215)

<223> TATA box

<220>

<221> misc\_feature

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aagctccaat tgctccttgc ttatccagct tcttttgtgt tggcaaactg cgcttttcca 120  
accgatTTTtg ttcttctcgc gctttcttct taggctaaac aaacctcacc gtgcacgcag 180  
ccatggtcct gaaccttcac ctgcgtcccta taaaagccta gccaaccttc acaatcttat 240  
catcaccac aacaccgagc accacaaact agagatc 277

<210> 5

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<213> Artificial Sequence

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<223> Prolamine-like box

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<221> misc\_feature

<222> (70)..(73)

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<222> (87)..(90)

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<221> misc\_feature

<222> (127)..(133)

<223> Prolamine-like box

<220>

<221> misc\_feature

<222> (161)..(168)

<223> G-like box

<220>

<221> enhancer

<222> (193)..(230)

<223> Enhancer box

<220>

<221> misc\_feature

<222> (314)..(368)

<223> As2/As2/As1 box

<220>

<221> TATA\_signal

<222> (404)..(410)

<223> TATA box

<220>

<221> misc\_feature

<222> (434)

<223> Transcription Initiation Site

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cccaagaagg ataatcactt ttcttagata aaaaagaaca gaccaatata caaacatcca 120



cactttctgca aacaatacat cagaactagg attacgccga ttacgtggct ttagcagact 180  
 gtccaaaaat ctgtttttgca aagctccaat tgctccttgc ttatccagct tctttttgtgt 240  
 tggcaaactg cgctttttcca accgattttg ttctttctgc gctttttctt taggctaaac 300  
 aaacctcacc gtgattgatg tgatatcaag attgatgtga tatctccact gacgtaaggg 360  
 atgacgcaca cgcagccatg gtcctgaacc ttcacctcgt ccctataaaa gcctagccaa 420  
 ccttcacaat cttatcatca cccacaacac cgagcaccac aaactagaga tc 472

<210> 6

<211> 455

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:MPrl131

promoter

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<222> (22)..(29)

<223> Prolamine-like box

<220>

<221> misc\_feature

<222> (70)..(73)

<223> GATA box

<220>

<221> misc\_feature

<222> (87)..(90)

<223> GATA box

<220>

<221> misc\_feature

<222> (127)..(133)

<223> Prolamine-like box

<220>

<221> misc\_feature

<222> (161)..(168)

<223> G-like box

<220>

<221> enhancer

<222> ()..)

<223> Enhancer box

<220>

<221> misc\_feature

<222> ()..)

<223> As2/As1 box

<220>

<221> TATA\_signal

<222> ()..(393)

<223> TATA box

<220>

<221> misc\_feature

<222> ()

<223> Transcription Initiation Site

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ccaagaagg ataatcactt ttcttagata aaaaagaaca gaccaatata caaacatcca 120  
catttctgca aacaatacat cagaactagg attacgccga ttacgtggct ttagcagact 180  
gtccaaaaat ctgttttgca aagctccaat tgctccttgc ttatccagct tcttttgtgt 240  
tggcaaaactg cgcttttcca accgattttg ttcttctcgc gctttcttct taggctaaac 300  
aaacctcacc gtgattgatg tgatatctcc actgacgtaa gggatgacgc acacgcagcc 360  
atggtcctga accttcacct cgtccctata aaagcctagc caaccttcac aatcttatca 420  
tcacccacaa caccgagcac cacaaactag agatc 455

<210> 7

<211> 332

<212> DNA

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<223> Description of Artificial Sequence:MPR1135

promoter

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<221> misc\_feature

<222> (21)..(28)

<223> G-like box

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<221> enhancer

<222> (53)..(90)

<223> Enhancer box

<220>

<221> misc\_feature

<222> (174)..(228)

<223> As2/As2/As1 box

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<221> TATA\_signal

<222> (264)..(270)

<223> TATA box

<220>

<221> misc\_feature

<222> (294)

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aagctccaat tgctccttgc ttatccagct tcttttgtgt tggcaaactg cgctttttcca 120  
accgattttg ttcttctcgc gctttcttct taggctaaac aaacctcacc gtgattgatg 180  
tgatatcaag attgatgtga tatctccact gacgtaaggg atgacgcaca cgcagccatg 240

gtcctgaacc ttcacctcgt ccctataaaa gcctagccaa ccttcacaat cttatcatca 300  
cccacaacac cgagcaccac aaactagaga tc 332

<210> 8

<211> 219

<212> DNA

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<223> Description of Artificial Sequence:MPrl136  
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<221> misc\_feature

<222> (78)..(115)

<223> As2/As1 box

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<221> TATA\_signal

<222> (151)..(157)

<223> TATA box

<220>

<221> misc\_feature

<222> (181)

<223> Transcription Initiation Site

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aaacaaacct caccgtgatt gatgtgatat ctccactgac gtaagggatg acgcacacgc 120  
agccatgggc ctgaaccttc acctcgtccc tataaaagcc tagccaacct tcacaatctt 180  
atcatcacc cacaacaccga gcaccacaaa ctagagatc 219

<210> 9

<211> 282

<212> DNA

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<223> Description of Artificial Sequence:MPrl137  
promoter

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<221> enhancer

<222> (20)..(57)

<223> Enhancer box

<220>

<221> misc\_feature

<222> (141)..(178)

<223> As2/As1 box

<220>

<221> TATA\_signal

<222> (214)..(220)

<223> TATA box

<220>

<221> misc\_feature

<222> (244)

<223> Transcription Initiation Site

<400> 9

gcagactgtc caaaaatctg ttttgcaaag ctccaattgc tccttgctta tccagcttct 60  
tttgtgttgg caaactgcgc ttttccaacc gattttgttc ttctcgcgct ttctttcttag 120  
gctaaacaaa cctcaccgtg attgatgtga tatctccact gacgtaaggg atgacgcaca 180  
cgcagccatg gtcttgaacc ttcacctcgt ccctataaaa gcctagccaa ctttcacaat 240  
cttatcatca cccacaacac cgagcaccac aaactagaga tc 282

<210> 10

<211> 315

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:MPr1138

promoter

<220>

<221> misc\_feature

<222> (21)..(28)

<223> G-like box

<220>

<221> enhancer

<222> (53)..(90)

<223> Enhancer box

<220>

<221> misc\_feature

<222> (174)..(211)

<223> As2/As1 box

<220>

<221> TATA\_signal

<222> (247)..(253)

<223> TATA box

<220>

<221> misc\_feature

<222> (277)

<223> Transcription Initiation Site

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cagaactagg attacgccga ttacgtggct ttagcagact gtccaaaaat ctgttttgca 60  
aagctccaat tgctccttgc ttatccagct tcttttgtgt tggcaaactg cgcttttcca 120  
accgattttg ttcttctcgc gctttcttct taggctaaac aaacctcacc gtgattgatg 180  
tgatatctcc actgacgtaa gggatgacgc acacgcagcc atggtcctga accttcacct 240  
cgtccttata aaagcctagc caaccttcac aatcttatca tcaccacaaa caccgagcac 300



cacaaactag agatc

315

<210> 11

<211> 505

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:MPPr1139

promoter

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<221> misc\_feature

<222> (4)..(26)

<223> Cereal box

<220>

<221> misc\_feature

<222> (39)..(61)

<223> Cereal box

<220>

<221> misc\_feature

<222> (120)..(123)

<223> GATA box

<220>

<221> misc\_feature

<222> (137)..(140)

<223> GATA box

<220>

<221> misc\_feature

<222> (72)..(79)

<223> Prolamine-like box

<220>

<221> misc\_feature

<222> (177)..(183)

<223> Prolamine like box

<220>

<221> misc\_feature

<222> (211)..(218)

<223> G-like box

<220>

<221> enhancer

<222> (243)..(280)

<223> Enhancer box

<220>

<221> misc\_feature

<222> (364)..(401)

<223> As2/As1 box

<220>

<221> TATA\_signal

<222> (437)..(443)

<223> TATA box

<220>

<221> misc\_feature

<222> (467)

<223> Transcription Initiation Site

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ctcgacatgg ttagaagttt tgagtgccgc cactactcga catggttaga agttttgagt 60  
ggccgtagat ttgcaaaagc aatggctaac agacacatat tctgccaaac cccaagaagg 120  
ataatcactt ttcttagata aaaaagaaca gaccaatata caaacatcca cacttctgca 180  
aacaatacat cagaactagg attacgccga ttacgtggct ttagcagact gtccaaaaat 240  
ctgttttgca aagctccaat tgctccttgc ttatccagct tcttttgtgt tggcaaactg 300  
cgcttttcca accgattttg ttcttctcgc gctttcttct taggctaaac aaacctcacc 360  
gtgattgatg tgatatctcc actgacgtaa gggatgacgc acacgcagcc atggtcctga 420  
accttcacct cgtccctata aaagcctagc caaccttcac aatcttatca tcaccacaa 480  
caccgagcac caaaaactag agatc 505

<210> 12

<211> 96

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:MPrl197  
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<221> TATA\_signal

<222> (28)..(34)

<223> TATA box

<220>

<221> misc\_feature

<222> (58)

<223> Transcription Initiation Site

<400> 12

catggtcctg aaccttcacc tcgtccctat aaaagcctag ccaaccttca caatcctatc 60

atcacccaca acaccgagca ccacaaacta gagatc 96

<210> 13

<211> 187

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:MPrl198  
promoter

<220>

<221> misc\_feature

<222> (8)..(15)

<223> G-like box

<220>

<221> enhancer

<222> (40)..(77)

<223> Enhancer box

<220>

<221> TATA\_signal

<222> (119)..(125)

<223> TATA box

<220>

<221> misc\_feature

<222> (149)

<223> Transcription Initiation Site

<400> 13

acgccgatta cgtggcttta gcagactgtc caaaaatctg ttttgcaaag ctccaattgc 60  
tccttgctta tccagcttct tttgtgttgg ccatggctct gaaccttcac ctggtcccta 120  
taaaagccta gccaaccttc acaatcttat catcaccac aacaccgagc accacaaact 180  
agagatc 187

<210> 14

<211> 290

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:MPrl199  
promotoer

<220>

<221> misc\_feature

<222> (6)..(25)

<223> GC rich box

<220>

<221> misc\_feature

<222> (34)..(41)

<223> G-like box

<220>

<221> enhancer

<222> (66)..(103)

<223> Enhancer box

<220>

<221> TATA\_signal

<222> (222)..(228)

<223> TATA box

<220>

<221> misc\_feature

<222> (252)

<223> Transcription Initiation Site

<400> 14

caaatggggc ggaccggggc ggcccagcgc cgattacgtg gcttttagcag actgtccaaa 60  
aatctgtttt gcaaagctcc aattgctcct tgcttatcca gcttcttttg tgttggcaaa 120  
ctgcgctttt ccaaccgatt ttgttcttct cgcgctttct tcttaggcta aacaaacctc 180  
accgtgcacg cagccatggc cctgaacctt cacctcgtcc ctataaaagc ctagccaacc 240  
ttcacaatct tatcatcacc cacaacaccg agcaccacaa actagagatc 290

<210> 15

<211> 381

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:MPrl200

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<221> misc\_feature

<222> (4) .. (26)

<223> Cereal box

<220>

<221> misc\_feature

<222> (39) .. (61)

<223> Cereal box

<220>

<221> misc\_feature

<222> (87) .. (94)

<223> G-like box

<220>

<221> enhancer

<222> (119) .. (156)

<223> Enhancer box

<220>

<221> misc\_feature

<222> (240) .. (277)

<223> As2/As1 box

<220>

<221> TATA\_signal

<222> (313) .. (319)

<223> TATA box

<220>

<221> misc\_feature

<222> (343)

<223> Transcription Initiation Site



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ctcgacatgg ttagaagttt tgagtgccgc cactactcga catgggttaga agttttgagt 60  
ggccgtagat ttgctctaga cgccgattac gtggctttag cagactgtcc aaaaatctgt 120  
tttgcaaagc tccaattgct ccttgcttat ccagcttctt ttgtgttggc aaactgcgct 180  
tttccaaccg attttgttct tctcgcgctt tcttcttagg ctaaacaaac ctcaccgtga 240  
ttgatgtgat atctccactg acgtaaggga tgacgcacac gcagccatgg tcctgaacct 300  
tcacctcgtc cctataaaag cctagccaac cttcacaatc ttatcatcac ccacaacacc 360  
gagcaccaca aactagagat c 381

<210> 16

<211> 343

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:MPrl213

Promoter

<220>

<221> misc\_feature

<222> (4)..(26)

<223> Cereal box

<220>

<221> misc\_feature

<222> (39)..(61)

<223> Cereal box

<220>

<221> enhancer

<222> (119)..(156)

<223> Enhancer box

<220>

<221> misc\_feature

<222> (87)..(94)

<223> G-like box

<220>

<221> TATA\_signal

<222> (275)..(281)

<223> TATA box

<220>

<221> misc\_feature

<222> (305)

<223> Transcription Initiation Site

<400> 16

ctcgacatgg ttagaagttt tgagtgccgc cactactcga catggttaga agttttgagt 60  
ggccgtagat ttgctctaga cgccgattac gtggcttttag cagactgtcc aaaaatctgt 120  
tttgcaaagc tccaattgct ccttgcttat ccagcttctt ttgtgttggc aaactgcgct 180  
tttccaaccg attttgttct tctcgcgctt tcttcttagg ctaaacaaac ctcaccgtgc 240  
acgcagccat ggtcctgaac cttcacctcg tccctataaa agcctagcca accttcacaa 300  
tcttatcatc acccacaaca ccgagcacca caaactagag atc 343

<210> 17

<211> 358

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:MP1216  
promoter

<220>

<221> misc\_feature

<222> (7) .. (14)

<223> G-like box

<220>

<221> enhancer

<222> (39) .. (76)

<223> Enhancer box

<220>

<221> misc\_feature

<222> (102) .. (109)

<223> G-like box

<220>

<221> enhancer

<222> (134)..(171)

<223> Enhancer box

<220>

<221> TATA\_signal

<222> (290)..(296)

<223> TATA box

<220>

<221> misc\_feature

<222> (320)

<223> Transcription Initiation Site

<400> 17

cgccgattac gtggcttttag cagactgtcc aaaaatctgt ttgcaaagc tccaattgct 60

ccttgcttat ccagcttctt ttgtgttggt ctagacgccg attacgtggc ttagcagac 120

tgtccaaaaa tctgttttgc aaagctccaa ttgctccttg cttatccagc ttcttttgtg 180

ttggcaaact gcgcttttcc aaccgatttt gttcttctcg cgctttcttc ttaggctaaa 240

caaacctcac cgtgcacgca gccatgggtcc tgaaccttca cctcgtccct ataaaagcct 300

agccaacctt cacaatctta tcatcaccca caacaccgag caccacaaac tagagatc 358

<210> 18

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial  
Sequence:Oligodesoxynucleotide

<400> 18

atcggaattc gtgttgga actgc

25

<210> 19

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial  
Sequence:Oligodesoxynucleotide

<400> 19

atcggaatt cgcagactgt ccaaaaatc

29

<210> 20

<211> 29

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial  
Sequence:Oligodesoxynucleotide

<400> 20

atcggaattc cagaactagg attacgccg

29

<210> 21

<211> 29

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial  
Sequence:Oligodesoxynucleotide

<400> 21

tacgaattcc cagctttgag tggccgtag

29

<210> 22

<211> 35

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial  
Sequence:Oligodesoxynucleotide

<400> 22

atcggaattc tagacgccga ttacgtggct ttagc

35

<210> 23

<211> 83

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial

Sequence:Oligodesoxynucleotide

<400> 23

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gttttgagtg gccgtagatt tgc 83

<210> 24

<211> 30

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial

Sequence:Oligodesoxynucleotide

<400> 24

atcggaattc gccgattacg tggctttagc

30

<210> 25

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial

Sequence:Oligodesoxynucleotide

<400> 25

atcgggaattc gcagccatgg tcctgaacc

29

<210> 26

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial

Sequence:Oligodesoxynucleotide

<400> 26

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<210> 27

<211> 63

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial

Sequence:Oligodesoxynucleotide

<400> 27

attgatgtga tatctccact gacgtaaggg atgacgcaca cgcagccatg gtcctgaacc 60  
ttc 63

<210> 28

<211> 80

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial

Sequence:Oligodesoxynucleotide

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Sequence:Oligodesoxynucleotide

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agggatgacg cacacgcagc catggctctg aaccttcacc tcgtccctat aaaagcctag 180  
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gctaaacaaa cctcaccgtg attgatgtga tatcaagatt gatgtgatat ctccactgac 180  
gtaagggatg acgcacacgc agccatggtc ctgaaccttc acctcgcccc tataaaagcc 240  
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<222> (102)..(109)

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<222> (229)..(266)

<223> Enhancer box

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tgtccaaaaa tctgttttgc aaagctccaa ttgctccttg cttatccagc ttcttttgtg 180  
ttggtctaga cgccgattac gtggcttttag cagactgtcc aaaaatctgt tttgcaaagc 240  
tccaattgct ccttgcttat ccagcttctt ttgtgttggc aaactgcgct tttccaaccg 300  
attttgttct tctcgcgctt tcttcttagg ctaaacaac ctcaccgtgc acgcagccat 360  
ggctctgaac cttcacctcg tccctataaa agcctagcca accttcacaa tcttatcatc 420  
accacaaca ccgagcacca caaactagag atc 453



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